Connecticut Job Losses: Our Share of National Effects? Or Are We Shifting for Ourselves?

By Steven P. Lanza

Connecticut may still be struggling to add jobs, but indications are that the state's long job slide may have ended in 2003-Q3. At such a juncture, it may be instructive to look back at what we've been through. How did this slump compare with the last? Was it a microcosm of the national recession, or were unique local forces at work? The answers may affect where we go from here.

To tackle such questions, regional economists use a technique called shift-share analysis. That technique decomposes changes in employment in an area—for instance, due to recession—into three distinct parts, attributable to: (1) changes in the national economy; (2) the specific mix of fast- or slow-growing industries in a region; and (3) the "competitiveness" of those industries.

A region's "share" of a national slump is simply the overall percentage decline in jobs nationally. Its "mix" effect would arise from having a sectoral composition of jobs different from the nation's. The rest of a region's effect would come from its sectors performing better or worse—that is, being more or less "competitive"—than the same sectors nationally. (Descriptive as it may be, the term "competitive" is something of a misnomer, as it ignores the possibility that employment may grow more slowly than the nation while productivity grows faster.)

Applying shift-share analysis to Connecticut, I find that the state's recent slump generally followed the national tide, but that state-specific developments between the Great Recession of the early 1990s and this decade's Tech Tumble helped mitigate recessionary job losses. Moreover, the Nutmeg State currently appears no more vulnerable than the U.S. to economic assaults such as outsourcing.

	Column (1)	*Column (2)*	*Column (3)*	*Column (4)*
Table 1: Sources of CT Job Changes (000's) During the Great Recession				
	Share	**Mix**	**Competitive**	**Sum**
Construction	-1.0	-7.0	-16.0	-23.9
Manufacturing	-4.3	-9.6	-31.4	-45.2
TTU	-4.5	-2.2	-35.5	-42.3
Information	-0.6	0.4	-4.2	-4.5
Finance	-2.2	0.3	-14.1	-16.0
Business Services	-2.4	-0.5	-8.1	-11.0
Education & Health	-2.6	13.8	9.8	20.9
Leisure	-1.5	1.2	-11.8	-12.2
Other	-0.9	0.6	-14.8	-15.2
Government	-2.9	3.5	-3.9	-3.2
Total	**-22.9**	**0.4**	**-130.0**	**-152.5**

Table 2: Sources of CT Job Changes (000's) During the Tech Tumble				
	Share	**Mix**	**Competitive**	**Sum**
Construction	-1.3	0.4	-1.8	-2.8
Manufacturing	-4.9	-31.4	-2.8	-39.1
TTU	-6.5	-5.6	-0.4	-12.6
Information	-1.0	-5.8	-0.8	-7.5
Finance	-2.9	7.0	-4.2	-0.1
Business Services	-4.5	-5.4	-12.0	-21.8
Education & Health	-5.0	23.9	-2.3	16.6
Leisure	-2.5	3.9	3.4	4.7
Other	-1.3	3.5	-1.3	1.0
Government	-5.0	12.7	-4.4	3.4
Total	**-34.8**	**3.2**	**-26.6**	**-58.2**

Table 3: Sources of Differential Performance (000's) Between Two Recessions				
	Share	**Mix**	**Competitive**	**Sum**
Construction	-0.3	7.3	14.1	21.1
Manufacturing	-0.6	-21.8	28.5	6.1
TTU	-2.0	-3.4	35.1	29.7
Information	-0.4	-6.1	3.5	-3.0
Finance	-0.8	6.8	10.0	15.9
Business Services	-2.1	-4.8	-3.9	-10.8
Education & Health	-2.5	10.1	-12.1	-4.4
Leisure	-0.9	2.7	15.2	16.9
Other	-0.3	3.0	13.5	16.2
Government	-2.1	9.2	-0.5	6.6
Total	**-11.9**	**2.8**	**103.4**	**94.3**

Source: *The Connecticut Economy* based on data from the U.S. Department of Labor.

One initial caveat: measuring job changes since the peak of the 1980s expansion in 1989 is complicated because NAICS employment statistics go back only to 1990. So for purposes of analysis, I apportioned the missing year's job losses by industry on the basis of industry performance during the 1990 to 1992 period of decline for which data are available.

The Great Recession

Connecticut's Great Recession stretched from 1989-Q1 to 1992-Q4 and cost the state more than 150,000 jobs, or 9% of its total. Shift-share analysis allows us to sort out the sources of the total loss. The U.S. economy lost 1.5 million jobs or 1.3% between 1990-Q2 and 1991-Q3. As shown in column (1) of Table 1, had Connecticut simply "shared" in the national slump, the state would have shed about 23,000 positions. But the state's recession started earlier, lasted longer and sank deeper, so Connecticut lost some 130,000 more jobs than its "share." The added reduction, by shift-share accounting, was the net result of the particular mix of industries in the state, and the relative competitiveness of those industries.

As column (2) of Table 1 shows, Connecticut's industrial mix actually gave it a boost during this period because its particular combination of industries was performing relatively well nationally. The state had a fairly high concentration of jobs in sectors that weathered the recession well, particularly in education and health services. Education and health gained jobs nationally, and Connecticut had a high concentration of jobs in that sector—11.3% of its total at the start of the recession versus 10.0% nationally. Connecticut also had a lot of jobs in sectors that lost big. For example, manufacturing accounted for 19.0% of Connecticut's jobs at the start of the recession compared with 16.2% nationally. But on balance, the industry mix favored the state a bit, offsetting about 400 of the recession-related job cuts.

Competitively, however, the state took a drubbing. Column (3) of Table 1 reveals that fully 130,000 jobs, or 85% of the total, were lost because of the relatively poor performance of Connecticut's industries. The reductions were especially severe in manufacturing; trade-transportation-&-utilities (TTU); and construction. Construction plunged 33% versus 11% nationally, and manufacturing slid 14% as opposed to just 4% nationally. In only one industry—education-&-health services—did Connecticut's differential performance translate into a few job gains to help offset losses everywhere else.

The Tech Tumble

The recent Tech Tumble produced a mild downturn in Connecticut but a harsher slump nationwide. Connecticut's 3.5% drop in jobs between 2000-Q3 and 2003-Q3 was a small dip compared with its 9% dive in the 1990s. In contrast, the national 2.1% job slide over the 2001-Q1 to 2003-Q3 period was 60 percent steeper than the 1.3% rate of the earlier recession.

The tech slump cost Connecticut about 58,000 jobs—about one-third the number lost in the 1990s. Had jobs in the state dropped at the rate they did nationally, the cost to Connecticut would have been about 35,000 positions (the total under the "share" column of Table 2). Whereas in the early 1990s, 15% of the job casualties stemmed from a weak national performance, this time that fraction reached 60%. So Connecticut clearly "shared" more of this national recession than the last. The remaining 23,000 jobs lost can be traced to industry mix (+3,200) or competitive forces (-26,000).

As earlier, the state's mix of industries helped compensate for recession-related job cuts, a bit more so this time than before. Connecticut's concentration of jobs in sectors such as education and health, finance, and government, which have done well nationally, made up for steep declines in manufacturing. On net, the state's industry mix offset more than 3,000 recession-related job reductions (the total under the "mix" column of the second table).

Connecticut again lost jobs due to the competitive performance of its industries, but this time the losses were limited to fewer than 27,000. Only leisure-&-hospitality managed to gain jobs on a competitive basis. Construction and finance fared relatively poorly compared to their counterparts nationally. Even government, which includes the state's casino jobs, did worse than average. But business services, the growth sector of the 1990s expansion, took the biggest bruising.

Dynamic Shift Share

Connecticut lost 94,000 fewer jobs in the recent recession than in the last one. Why such a difference? Did changes in the state's industrial structure mitigate the effects of the most recent recession, or were broader national forces at work? Shift-share analysis also provides insight into this issue.

Just as we decomposed the total job loss in each recession, we can decompose the job loss differential into these same three parts—share, mix and competitive effects—by subtracting each number in Table 1 from the corresponding number in Table 2.

As column (4) of Table 3 shows, the job loss differential totaled 94,300. Most sectors of the economy did better in the second recession than the first, particularly TTU, which lost 30,000 fewer jobs, and construction, which lost 21,000 fewer jobs. Only information and business services, which were hard-hit nationally in the latest recession, and education-&-health, which added jobs, had an easier time of it in the Great Recession than in the Tech Tumble.

Based on the relative depth of the national recessions, we might have expected Connecticut to lose more jobs in the second recession, not fewer (column 1). Changes in the mix component offset some of this expected loss. Education-&-health contributed the most to the mix component, compensating for about half the effect of the state's reliance on manufacturing.

But thanks to improved competitiveness, Connecticut lost 103,000 fewer jobs in the Tech Tumble (column 4)—an amount that accounted for almost all of the difference in performance between the recessions. More than half of this "savings" was concentrated in manufacturing and TTU alone. What's more, unlike the share and mix components, which reflect the national economy's influences, the competitive component measures influences internal to the state. Thus, Connecticut's superior performance in the Tech Tumble compared to the Great Recession can largely be credited to endogenous economic changes. Developments over the period, from industry restructuring to an improved business climate and added investments in human and physical capital, evidently helped to insulate the economy against recessionary job losses.

Postscript: Outsourcing

At the moment, one of Connecticut's highest-profile challenges is the loss of domestic jobs to foreign providers. Does Connecticut's improved competitiveness help shield it against the vagaries of "outsourcing?"

A recent University of California at Berkeley study by Bardhan and Kroll (http://repositories.cdlib.org/iber/fcreue/reports/1103) identifies more than a dozen key U.S. industries, with 5% of the economy's jobs, as at high risk of outsourcing. Beyond these sectors, the risks are spread more broadly, but the total exposure could run as high as 11% of all jobs.

Data limitations preclude making detailed comparisons, but we can compare Connecticut with the nation in four of the larger industries, accounting for 80% of the jobs identified as high risk in the Berkeley study.

The industries in question—telecommunications, computer systems design, accounting/bookeeping/payroll, and computer and electronics manufacturing—represent about 4% of total jobs in both the U.S. and Connecticut economies. In the recent recession, jobs in these combined industries were down 20% nationally and 22% in Connecticut.

As Table 4 shows, most of the Connecticut job losses in these four industries trace to share and mix effects, which are national in scope. State-specific competitive effects explain just 11% of job losses in Connecticut, and nearly all of this is concentrated in the computer systems design sector.

The upshot? Connecticut seems no more vulnerable to the outsourcing wave than does the U.S. generally. For a state long accustomed to bearing more than its share of the burden from competitive job losses, this is welcome news.

Table 4: Job Changes (000's) in Connecticut Industries at Risk to Outsourcing, 2000-Q3 to 2003-Q3

	Share	Mix	Competitive	Sum
Computer/Electronics Manufacturing	-0.5	-5.8	-0.6	-6.9
Telecommunications	-0.3	-2.9	0.7	-2.5
Accounting/Bookeeping/Payroll	-0.2	-0.6	-0.2	-1.0
Computer Systems Design	-0.5	-3.8	-1.7	-6.0
Total	**-1.5**	**-13.1**	**-1.8**	**-16.4**

Source: *The Connecticut Economy* based on data from the U.S. Department of Labor.